MIT's Oldest and Largest Newspaper

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The Tech

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Thursday, March 15, 2018

WEATHER, p. 2

THU: 41°F | 30°F Mostly Cloudy

FRI: 37°F | 23°F Mostly Cloudy

SAT: 33°F | 19°F Partly Sunny

Usable fusion energy within fifteen-year reach, MIT says

MIT to collaborate with private company to research superconducting magnets and develop pilot plant

By Emma Bingham and Jessica Shi
EDITORS

Fifteen years: that's the amount of time MIT researchers and industrial collaborators say they need to achieve the long sought after dream of usable fusion energy — and in doing so, curb the trajectory of climate change.

MIT announced March 9 that it would partner with Commonwealth Fusion Systems (CFS), a newly formed private company led by former MIT affiliates and one of the startups involved with The Engine, MIT's 'tough tech' startup incubator, to launch a "novel approach to fusion power" that utilizes recent advances in superconductor technology, according to MIT News.

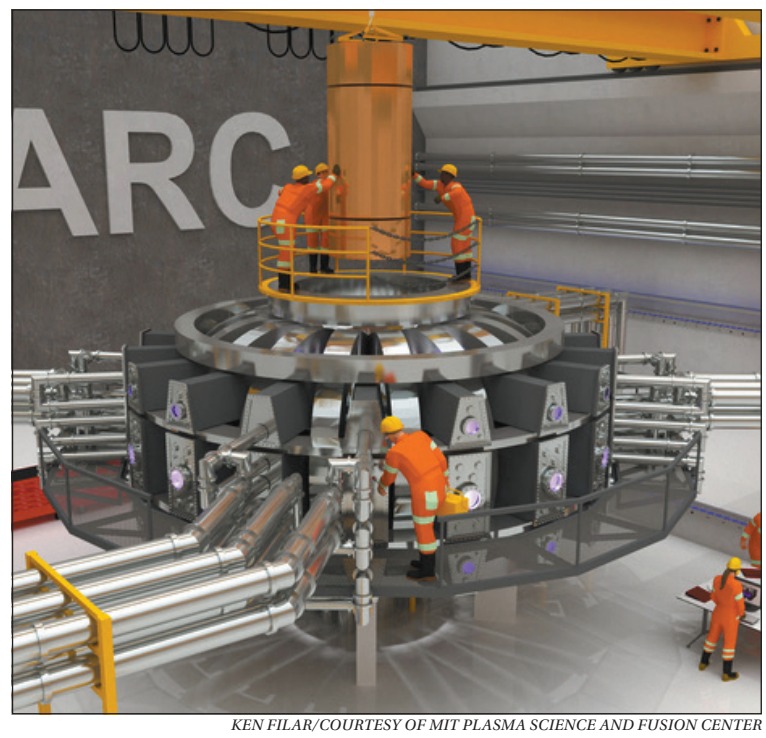
CFS has also attracted a $50 million investment from Eni, an Italian oil company and one of the founding members of the MIT Energy Initiative.

"This is an important historical moment: Advances in superconducting magnets have put fusion energy potentially within reach, offering the prospect of a safe, carbon-free energy future," President L. Rafael Reif told MIT News.

The collaboration will combine MIT's strength in research with CFS's experience in commercialization, Zach Hartwig PhD '14, assistant professor of nuclear science and engineering at MIT, said in a press call March 8.

Fusion is the energy-rich process of smashing light elements together to produce heavier elements. The process requires extremely high temperatures, which is why the

Fusion, Page 3



KEN FILAR/COURTESY OF MIT PLASMA SCIENCE AND FUSION CENTER

A visualization of the proposed SPARC tokamak experiment.

MAHI SHAFIULLAH—THE TECH

A hack showing support for DACA students appeared in Lobby 7 March 11.

MIT admits class of 2022

At 6:28 p.m. yesterday, MIT released admissions decisions for the class of 2022. According to MIT Admissions, 1,464 of 21,708 applicants were admitted, counting both early and regular admission, for an acceptance rate of 6.7 percent. Congratulations, and see you at CPW!

IN SHORT

Spring break shuttles to Logan Airport will be provided Thursday, March 22–Saturday, March 24. Shuttles will cost $15. Reservations and schedules can be found at web.mit.edu/facilities/transportation/shuttles/airport.html.

Register to host a prefrosh for CPW by Friday, March 23. Fill out the application at community.mitcpw.org.

St. Patrick's Day is Saturday.

The Tech is looking for **photographers and sports writers**.

Send news and tips to *news@tech.mit.edu*.

DSL announces new dining plan options for next semester

Changes include Dining Dollars to be used at retail locations, voluntary plans, and roll-over meal swipes

By Sandhya Kalavacherla
NEWS EDITOR

The Division of Student Life (DSL) has announced new dining plan options that will go into effect next year. This is the first major update since fall 2011.

A full description of the new dining plan options is available on the DSL's website, in addition to The Tech's summary from last week.

Some of the major changes include Dining Dollars that can be used at retail locations across campus, voluntary plans for students who live off campus or in cook-for-yourself communities but want the convenience of an occasional dining hall meal, and swipes that roll over until the end of the semester. There is also a possibility of opening Rebecca's Late Night Café in Walker Memorial to the dining plan in future years.

"Early feedback has been positive, with some questions about how and where Dining Dollars can be used," Suzy Nelson, vice president and dean for student life, wrote in an email to *The Tech*.

Overall, these changes are meant to reflect increased flexibility, options, and quality without substantial increases in cost, according to the DSL website. The Dining Data Review Working Group's findings in 2016 recommended enhancements in six areas, including increased plan value and expanded late-night options, Nelson wrote.

Dining, Page 3

IS&T to improve Next House Wi-Fi, Ethernet starting April

Process includes converting two doubles to telecom receiver spaces, installing cables in walls of each floor

By Zoe Anderson
ASSOCIATE NEWS EDITOR

Information Systems and Technology (IS&T) will begin construction in Next House to improve the Wi-Fi and Ethernet (collectively known as the "network") this April and is projected to finish at the beginning of the fall semester. IS&T will convert two doubles on the third floor into telecom receiver spaces, Next House President Justina Yang '19 said at the Next Exec meeting March 5.

In addition, IS&T will install cables in the walls on each floor and construct risers in the mini lounges this semester. Risers are closet-like structures that allow cables to run vertically between floors.

Next Exec has not yet been able to make plans in response to the decrease in the number of rooms for next year because the plans will depend on the Division of Student Life's decisions, Blair Anaman-Williams '21, Next House housing chair, wrote in an email to *The Tech* Wednesday. Anaman-Williams wrote that there are plans in place to ensure that the four individuals in the affected doubles will remain in Next House and in their wings.

Danny Gelman '20, who lives in one of the third floor doubles that will be converted, told *The Tech* in an email Wednesday that one plan for replacing his room is to convert at least one triple on his floor back into a double.

Gelman's room is the former room of Sal Khan '98, founder of online education nonprofit Khan Academy.

IS&T needs the two doubles for space for the network, cooling systems, and back power system, according to Yang. The cooling system is being upgraded to help prevent power outages, and will take significantly more space.

Yang also added that IS&T said they would allot extra space for a margin of error to plan for future needed changes as technology improves and students' network needs increase. The Ethernet is being massively upgraded from the ten megabyte scale to the gigabit scale.

Some residents are unsure why IS&T requires the space of two

IS&T, Page 3

LONG DISTANCE RELATIONSHIPS

Auntie Matter's advice for a spring-term senior. **CAMPUS LIFE, p. 6**

MIDTERMS GOT YOU, TOO?

On psets after exams. **CAMPUS LIFE, p. 7**

LIFE AFTER MIT

This Course 18 graduate discusses her journey as a hip-hop artist. **ARTS, p. 9**

CELEBRATING HAPPINESS

Life is too short to forget the little things we care about. **ARTS, p. 9**

CYCLIST SAFETY

Boston Cyclist Union pushes for safer conditions on Longfellow Bridge. **OPINION, p. 5**

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WEATHER

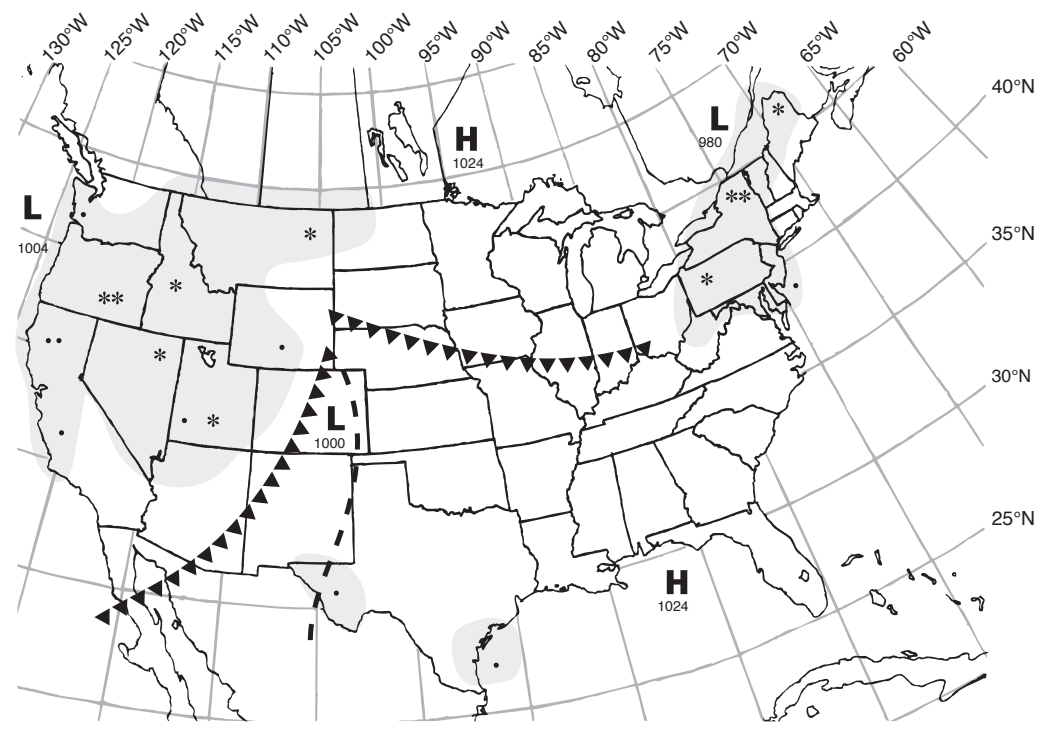
BYOS: Bring Your Own Sunshine

By Lily Dove
STAFF METEOROLOGIST

Cambridge is not looking to get any warmer after the day off of school on Tuesday that Winter Storm Skylar provided. The next few days will be mostly cloudy and quite windy, but with no precipitation until early next week. Try not to let the winter doldrums get to you — go ahead and build your snowpeople and have a snowball fight because before you know it, it will be springtime!Top snowfall from this week's blizzard is in Holden, Maine, where they got upwards of 2.5 feet of snow. In comparison, Boston got 14.5 inches, while some towns in western Massachusetts got over 20 inches of snow. Places as far south as Tennessee saw flurries as a result of the snowstorm. Of course it is hard to predict the weather even a few days out, but the low pressure system making its way across the continental United States is threatening to bring us a bit more rain or snow to add to our puddles around campus.

Extended Forecast

Today: Mostly cloudy. High of 41°F (5°C). Winds 15–20 mph from the west.
Tonight: Partly cloudy. Low of 30°F (-1°C). Winds 10 mph from the west.
Tomorrow: Windy and mostly cloudy. High of 37°F (3°C) and low of 23°F (-5°C). Winds 15-20 mph from the west.
Saturday: Partly cloudy. High of 33°F (0°C) and low of 19°F (-7°C) . Winds 10-20 mph from the northwest.
Sunday: Sunny. High of 30°F (-1°C) and low of 20°F (-7°C). Winds 10 mph from the northwest.



Situation for Noon Eastern Time, Thursday, March 15, 2018

Weather Systems	Weather Fronts	Precipitation Symbols			Other Symbols
H High Pressure	Trough		Snow	Rain	Fog
L Low Pressure	Warm Front	Showers	* ▽	• ▽	Thunderstorm
§ Hurricane	Cold Front	Light	*	•	Haze
	Stationary Front	Moderate	**	••	
		Heavy	⁂	⁖	

Compiled by MIT Meteorology Staff and *The Tech*

Stephen Hawking, whose mind roamed the cosmos, dies at 76

Renowned physicist discovered that black holes don't keep all the energy they capture

By Dennis Overbye
THE NEW YORK TIMES

Stephen W. Hawking, the Cambridge University physicist and best-selling author who roamed the cosmos from a wheelchair, pondering the nature of gravity and the origin of the universe and becoming an emblem of human determination and curiosity, died early Wednesday at his home in Cambridge, England. He was 76.

A university spokesman confirmed the death.

"Not since Albert Einstein has a scientist so captured the public imagination and endeared himself to tens of millions of people around the world," Michio Kaku, a professor of theoretical physics at the City University of New York, said in an interview.

Hawking did that largely through his book "A Brief History of Time: From the Big Bang to Black Holes," published in 1988. It has sold more than 10 million copies and inspired a documentary film by Errol Morris. His own story was the basis of an award-winning 2014 feature film, "The Theory of Everything." (Eddie Redmayne played Hawking and won an Academy Award.)

Scientifically, Hawking will be best remembered for a discovery so strange that it might be expressed in the form of a Zen koan: When is a black hole not black? When it explodes.

What is equally amazing is that he had a career at all. As a graduate student in 1963, he learned he had amyotrophic lateral sclerosis, a neuromuscular wasting disease also known as Lou Gehrig's disease. He was given only a few years to live.

The disease reduced his bodily control to the flexing of a finger and voluntary eye movements but left his mental faculties untouched.

He went on to become his generation's leader in exploring gravity and the properties of black holes, the bottomless gravitational pits so deep and dense that not even light can escape them.

That work led to a turning point in modern physics, playing itself out in the closing months of 1973 on the walls of his brain when Hawking set out to apply quantum theory, the weird laws that govern subatomic reality, to black holes. In a long and daunting calculation, Hawking discovered to his befuddlement that black holes — those mythological avatars of cosmic doom — were not really black at all. In fact, he found, they would eventually fizzle, leaking radiation and particles, and finally explode and disappear over the eons.

Nobody, including Hawking, believed it at first — that particles could be coming out of a black hole. "I wasn't looking for them at all," he recalled in 1978. "I merely tripped over them. I was rather annoyed."

That calculation, in a thesis published in 1974 in the journal Nature under the title "Black Hole Explosions?," is hailed by scientists as the first great landmark in the struggle to find a single theory of nature — to connect gravity and quantum mechanics, those warring descriptions of the large and the small, to explain a universe that seems stranger than anybody had thought.

The discovery of Hawking radiation, as it is known, turned black holes upside down. It transformed them from destroyers to creators — or at least to recyclers — and wrenched the dream of a final theory in a strange, new direction.

"You can ask what will happen to someone who jumps into a black hole," Hawking said in 1978. "I certainly don't think he will survive it.

"On the other hand," he added, "if we send someone off to jump into a black hole, neither he nor his constituent atoms will come back, but his mass energy will come back. Maybe that applies to the whole universe."

Dennis W. Sciama, a cosmologist and Hawking's thesis adviser at Cambridge, called Hawking's thesis in Nature "the most beautiful paper in the history of physics."

REPORTER'S NOTEBOOK

Beyond the Cradle: Envisioning a New Space Age

MIT Media Lab attracts all sorts of space cadets

By Sheila Baber
NEWS EDITOR

"Space will be hackable. Space will be playful."

So started MIT Media Lab's second annual Beyond the Cradle: Envisioning a New Space Age last Saturday. As part of the MIT Media Lab Space Initiative, the brainchild of Ariel Ekblaw G, the event brought together scientists, designers, artists, entrepreneurs, and engineers under the theme of space research and exploration.

In the spirit of the event, the sixth floor of the Media Lab displayed various space-themed paraphernalia, including space suit prototypes, scent capsules for astronauts, and various responsive and self-assembling materials to facilitate humanity's expansion into the final frontier.

"We try to connect the engineering, design, science, and art aspects of all the things in the world and at MIT," Media Lab Director Joi Ito said at the opening. "Design and engineering [are] really focused on solving problems and building things that are useful, while science and art [are] about asking the questions that the designers and the engineers then work on solving."

Ito added that it's important "not just to understand, [but] also try to imagine the things we don't understand."

Among the keynote speakers was Nobel Laureate Rainer Weiss '55, who spoke on his work in gravitational waves and LIGO. Weiss took the audience through neutron stars, black holes, and the edge of the big bang, and in his classic humor mentioned how the movie Interstellar was "too complicated" for him.

This proved to be the perfect segue to a plenary address and panel titled "Our Sci-Fi Space Future," featuring modern science fiction writers Neal Stephenson and Nnedi Okorafor and movie and VR maker Eliza McNitt.

McNitt offered a novel perspective on virtual and augmented reality as a storytelling medium, transporting the audience visually and aurally past physical constraints and dimensions to places such as the interior of a black hole.

Okorafor, whose parents hail from Nigeria, spoke of how her stories feature futuristic inventions in the familiar yet technologically advanced backdrops of her childhood.

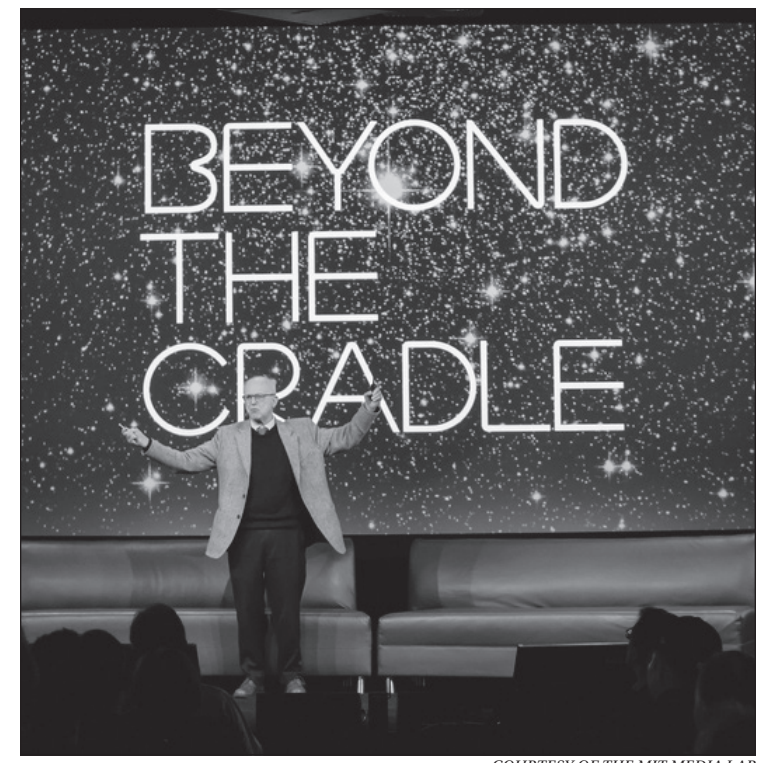
When asked about the balance between being scientifically accurate and delivering an engaging story, Stephenson said, "It gives me some mileage from a storytelling point of view to try to stick with a realistic physical scenario."

To this same question Okorafor responded, "First and foremost, I'm a storyteller. ... Science fiction can go beyond the possible and proven and kind of play around. That's the agency we have as science fiction writers."

The rest of the event was split between tracks featuring panel speakers and presentations from aerospace companies such as Blue Origin, SpaceX, and the asteroid mining company Planetary Resources. Both tracks featured interactive components, such as distributing samples of asteroids and pieces of a lightsail designed for photon propulsion for audience members to inspect.

In a compelling panel discussion of democratizing access to space, Professor Jordi Puig-Suari, one of the co-inventors the CubeSat standard, said that "space was in a situ-

Cradle, Page 15



COURTESY OF THE MIT MEDIA LAB

Nobel Laureate Rainer Weiss '55 speaks about gravitational waves to a rapt audience at Beyond the Cradle, a Media Lab conference on space exploration.

Oil company Eni invested $50 million in CFS

Fusion, from Page 1

main place it occurs naturally is in the core of stars.

No solid material can withstand these temperatures, so to induce fusion, scientists must trap the hot atoms in a strong magnetic field, often using a toroidal device called a tokamak.

The energy required to induce a fusion reaction is greater than the energy that can currently be produced from the reaction.

However, researchers at MIT's Plasma Science and Fusion Center (PSFC) and CFS believe that a new superconducting material consisting of steel tape coated with yttrium-barium-copper oxide (YBCO) will greatly reduce the amount of energy required.

MIT and CFS aim to use YBCO to create superconducting magnets that will be used to contain fusion reactions. Once this research has been conducted — a process they expect to take three years — the technology will be used to build SPARC (Soonest Possible Affordable Robust Compact), the tokamak design they hope will allow net positive energy production from fusion.

However, according to MIT News, while SPARC is designed to produce 100 megawatts of heat, it will not be able to convert this energy into electricity. Instead, this final step will take the form of a fusion pilot plant (called ARC), which MIT hopes will be operational and integrated into the grid within the 15 year timeline, the SPARC website wrote.

MIT's fusion research will be funded by CFS for this collaboration, and CFS is currently seeking the support of additional investors.

CFS CEO Robert Mumgaard PhD '15 said in the press call that there are other interested private companies working in fusion technology in the area, but he did not list names.

As for why a major player in the oil industry like Eni would want to invest in the development of an alternative energy source, Vice President for Research Maria Zuber said in the call that Eni views themselves as an "energy company" and is actively seeking to diversify its energy portfolio.

Eni will also be engaging with the PSFC intellectually as well as financially, according to PSFC Director Dennis Whyte, and is expected to be a long-term partner, according to Mumgaard.

MIT spokespersons have also been careful to credit the role federal funding has played in supporting fusion research to date. "We're in a position today to potentially commercialize fusion energy because of long-term support from the federal government," Zuber said.

The SPARC website emphasizes that MIT is "augmenting, not moving away from," the traditional federally funded model, as commercialization efforts cannot be supported by government resources.

MIT and CFS's work will complement the other fusion projects that are currently underway.

Most prominent is the International Thermonuclear Experimental Reactor (ITER), the world's largest fusion experiment. ITER expects to begin producing fusion energy around 2035 — just two years after MIT's estimated finish date.

If successful, SPARC's power output will be about a fifth of ITER's, but it will also take the form of a device that takes up only 1/65 of the volume, according to MIT News.

In the realm of industry, Google has also entered the race toward fusion technology. Together with Tri Alpha Energy, it developed an algorithm that would significantly speed up plasma experiments, The Guardian reported in July 2017.

But the claim that the fusion field is on the brink of a breakthrough is not a new one, which Zuber acknowledged in her editorial in The Boston Globe. "The sardonic quip has been that it's always 30 years away," Zuber wrote.

However, Zuber continued confidently, "The joke part is about to change."

MAHI SHAFIULLAH—THE TECH

Allan and Danny Gelman '20 in one of the two Next House doubles that IS&T will convert to telecom receiver rooms this summer. Their room is the former room of Khan Academy founder Sal Khan '98.

Khan Academy founder's former room to be converted

IS&T, from Page 1

doubles. Elijah Rivera '19, a student in Course 6-3 who has worked with network systems, told *The Tech* that he does not believe that this much space could possibly be necessary. After IS&T shared a 430-word info sheet containing very few technical details, Rivera requested the complete technical specifications.

Yang said at the initial meeting Feb. 23 that she would have preferred it had IS&T been more communicative with Next Exec earlier on.

The cabling will take place on one wing at a time, lasting from four days to two weeks.

Ben Nguyen '21, Next House judiciary committee chair, stated at the Next Exec meeting March 5 that he was concerned that residents of Next were not aware that the renovations would affect floors other than the third floor.

An outside company surveyed all the dorms in 2014 and found that Next House was among the worst five dorms in terms of network structure. According to Yang, IS&T is also conducting similar work (but on a smaller scale) at Simmons, and other dorms are likely to undergo a similar sort of improvement in the future.

Students like new meal plan options

Dining, from Page 1

Kelly Chen '21, a Simmons resident, told *The Tech* she is excited for the new meal plan. "Since I don't usually use all my meal swipes on the Basic 14, the lowest meal plan allowed for Simmons freshmen, I can now have fewer meals and also pay for fewer meals."

Ayesha Ng '21 shares a similar sentiment as Chen. "I appreciate the flexibility in dining options so that we're able to more freely choose both where and when we want to eat," Ng told *The Tech*.

Students have been involved in the process of creating the new meal plan structure since the working group review began in winter 2016. Their findings kicked off a discussion between DormCon, the Undergraduate Association, and DSL about potential dining plan enhancements. Those discussions carried over to fall 2017 and involved the House Dining Committee and the heads of house, who helped shape the final structure, Nelson explained.

The company that has been awarded the new dining contract will be announced later this semester, according to Nelson.

ROBERT KRAWITZ—THE TECH

Bradley Jomard '19 drives to the basket for the No. 19 MIT Engineers in a 79–76 win over Middlebury College in the NCAA Sweet 16. The Engineers lost the following day to Ramapo in the Elite 8.

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LETTER TO THE EDITOR

Addressing falsities in 'A not-so-merry Christmas in Jerusalem'

The Jan. 11 opinion piece in The Tech titled "A Not-So-Merry Christmas in Jerusalem" was littered with factual inaccuracies. Thankfully, The Tech addressed two such examples in a follow-up issuing of corrections, namely the false claims that Israeli authorities did not permit Christmas decorations and that there was no international support in the U.N. for the U.S. recognizing Jerusalem as Israel's capital.

I am writing this letter, however, because these corrections do not cover all of the false claims made in the piece. Especially for a topic as sensitive and often inflammatory as this, it is important that the discussion remain truthful and precise. If truth becomes arbitrary, then there will never be a productive conversation on the topic, let alone meaningful resolution.

For this reason, it is important to bring to light all inaccuracies demonstrated in this piece that were not mentioned in the corrections. I hope such inaccuracies will be avoided in the future.

The opening sentences of the article claims that there were no Christmas trees in Jerusalem this year and that it has "been some time" since Jerusalem was decorated with Christmas trees. Not only were Christmas trees present in Jerusalem, as demonstrated in a picture provided in a comment on the online version of the article, and not only did the Jerusalem municipality encouraged their presence through free distribution, but this has also been the case for years.

The authors claimed that there was "and will be no Christmas joy" in Jerusalem this year. Through this broad, unsupportable claim, the authors failed to address the various celebrations that occurred throughout the city in celebration of the holiday, such as numerous mass and religious ceremonies, concerts, carols, tours, and influx of Christian visitors from around the world, including Christian Arabs from Hamas and PLO controlled areas.

The authors also claim that "In reality, all Palestinians…have suffered from Zionist aggressions…" and that they are all subjected to different laws. This is another broad and unsupportable claim that speaks for a large group of diverse people and fails to address the complex reality. For example, this claim ignores efforts made by Israel, such as providing huge amounts of aid, as well as the role played by Palestinian leaders, such as Hamas and the PLO, in issues plaguing Palestinian society. Additionally, the sole legal distinction between Jewish and Arab citizens of Israel is that Arabs are not drafted into the army but can choose to serve. When stating "some are not even citizens," the article fails to mention that after the Independence War in 1948 and the Six Day War in 1967, both of which were defensive wars in reaction to Arab aggression and instigation, Israel offered citizenship to those Arabs living in acquired territories. For example, after the Six Day War Israel offered citizenship to those living in the eastern portion of Jerusalem that was previously controlled by Jordan. In both cases, most offers for citizenship were refused.

Later in the piece, the authors incorrectly claimed, "the ruling party voted to annex the remainder of Palestinian land." While there were votes about annexing specific pre-existing settlements, there was no vote on annexing the entire west bank. In fact, the subheading of the article provided by the authors as a source even makes this distinction, saying, "Likud's resolution calls for formal annexation of parts… of the West Bank." Of course, it is important to note that under most peace plans, there would be land swaps.

Furthermore, the authors claim that the U.S. attempted to "decide the outcome of one of the most crucial components of negotiations…" However, at no point in the declaration did the Trump Administration claim to decide any such outcomes. In fact, Trump explicitly said that moving the embassy to Jerusalem would have no bearing on the city's status under any peace agreement.

Later on in the article, the authors claim, "Palestinians have participated in non-violent protests" of the declaration and that "the result has been devastating…Palestinians have been killed…most recently, a 17-year old boy named Musab al Tamimi." This statement implies that any injuries sustained were in result of non-violent protests. However, this is factually inaccurate, as such protests were indeed violent and included protesters throwing Molotov Cocktails and stones. Besides for the omission regarding the violent protests, when looking at the source provided to support their claims, it is clear that the authors were not interested in accurately reflecting the situation. The very source provided by the authors directly contradicts their claims when it states: "Musab's killing, … is unrelated to the protests against Trump's move…" This is a blatant disregard for their own source in an attempt to use a boy's death to further the authors' narrative.

This is just an attempt to address the factual inaccuracies of the piece. There are also many instances in the article where the authors fail to provide context, lie by omission, provide inappropriate sources, or manipulate the readers' emotions. But, you have to start somewhere. Although this was an opinion piece, The Tech should hold all authors to a high standard for truth and accuracy, just like they would in any other section of the paper. After all, "Everyone is entitled to his own opinion, but not his own facts."

— Suri Bandler G

CORRECTIONS

An article in last week's issue about the play *Orlando* attributed the play adaptation to Virginia Woolf. In fact, the adaptation, which is based off of the novel originally by Virginia Woolf, is by Sarah Ruhl, a contemporary playwright.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Karleigh Moore, Editor in Chief Emma Bingham, Executive Editor Patrick Wahl, Contributing Editor Vivian Zhong, and Opinion Editors Steven Truong and Fiona Chen.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

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Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters; shorter letters will be given higher priority. Once submitted, all letters become property of *The Tech*, and will not be returned. Letters, columns, and cartoons may also be posted on *The Tech*'s Web site and/or printed or published in any other format or medium now known or later that becomes known. *The Tech* makes no commitment to publish all the letters received.

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OPINION OPINION OPINION

ADVICE

Tick tock, tick tock

Auntie Matter on hurried homework and last-minute liaisons

By Auntie Matter

If you have questions for Auntie Matter, please submit them at tinyurl.com/AskAuntieMatter. Questions have been edited for length, clarity, and content.

Dear Auntie,

I keep finishing my psets up until the last hour. It's almost like whenever I attempt to start a pset early, I do a small portion of it and convince myself that I started early, only to complete the bulk of it the night or the hours before. I can't break this habit, and it keeps frustrating me. Any advice on how to break the chain?

— Procrastinator, Started Early Though

Dear PSET,

What are you doing when not doing your psets? Are you simply so busy with other activities that you find it hard to schedule time for your psets? Or do you find yourself frittering away a lot of time between the start of the pset and the due date?

If you're swamped, consider whether you want to drop any of your activities. The stress of too much work could be making all your work suffer — procrastination is just a symptom. Which classes or activities are least important to you? Drop those, if possible. If you absolutely must remain in all your activities, try scheduling your time more rigorously. Set aside specific hours on specific days of the week to do each pset, and follow through on this schedule.

If you find yourself with plenty of time, but you just can't seem to use it for psetting, you should think about why you're procrastinating.

Procrastination can often mean anxiety — you feel intimidated by the amount or difficulty of the work you have to do, and so you put it off as a form of self-sabotage. If this sounds like you, never fear! There is help, and there are study strategies.

Create a space and a routine for psetting. Auntie finds that physical cues help her concentrate — for example, decide that the desk in your room will only be used for studying and never for playing games on your phone. Avoid studying in places you primarily socialize, such as your floor's lounge or your club's office. Weekly routines also help. If you set a habit of working on your 18.600 pset on Tuesday and Thursday mornings, you'll find finishing it much less painless.

If it's general malaise or cloudiness of mind that's keeping you from your psets, you should first make sure you are sleeping, eating, and exercising enough. Auntie finds that lack of any of these things easily produces sadness and unproductivity. Then, if you still feel down, consider making an appointment at MIT Mental Health. Another thing that could interfere with your mood could be issues in your personal life. If you are facing stress from friends, family, or loved ones, you should be kind to yourself. Sometimes if the issues in our personal lives are severe enough (the death of a loved one, for example), we are in an era of our lives when school performance just isn't that important. Obviously, if you can resolve stress in your personal life, you should. However, if you are going through a hard time, you need not worry too much about late psets. And remember to contact S^3 for support.

Likely, after reading all this advice, you probably will still procrastinate. But once you've started procrastinating, don't feel as though you must keep procrastinating. You are not simply either a procrastinating fool or a productivity fiend. Just because you procrastinated for one day doesn't mean you can't be productive the rest of the week.

Good luck!

PATRICIA GAO—THE TECH

Dear Auntie,

I am a second-semester senior, and there's a girl in my major I have recently developed a crush on. We have been in many of the same classes together over the years, and we've become good friends. I feel like we really connect when we talk. She's clever and caring and great. I'm not sure, but I think she might be interested in me, too. However, I know we've both accepted jobs on opposite sides of the country. Should I confess my feelings to her?

— Running Out of Time

Dear Out of Time,

Auntie normally tries to offer a broad range of solutions to those who seek her advice, but in this case, she believes there is only one right answer: go for it. Despite the fact that add date has already passed, Auntie believes you can add a new date.

You seem to think this relationship will likely end upon graduation. It is important to keep in mind that we can never know whether any new relationship will last. If you would not ask anyone out unless you were sure the relationship would last, you would never ask anyone out.

Auntie's philosophy on relationships for young people is this: focus on the short term and the long term, and forget the medium term. What does that mean? In the present, you should enjoy your relationship. It should bring light and support into your life. In the long term, you should be learning and growing from your relationship. The skills and self-knowledge a serious attempt at love can bring you will stay with you, even if your lover does not. We cannot control the medium term; we do not always know if our lovers will be with us in a year or even a few months. However, by focusing on the short and long terms, we can make the most of what we can have some control over. Auntie has no doubt that attempting to date this woman would give you both joy and self-knowledge. It might be painful, but many of the best things also bring pain.

Finally, Auntie notes that you don't even have the normal excuse: "But it would ruin the friendship!" You're moving to opposite ends of the country, regardless. Kiss the girl.

MIT application essays that worked

'I feel aloof yet connected to the rest of the world'

Prompt

We know you lead a busy life, full of activities, many of which are required of you. Tell us about something you do for the pleasure of it.

Response

Oftentimes I find myself alone in the secluded areas of the campus, sometimes imagining it to be the wilderness. When it is dusk, I can see how the lights of the houses echo the stars above, and the wind that blows through the pine leaves seem to murmur in understanding. During these moments, when I am sitting by myself on a rock overlooking the fields, I feel aloof yet connected to the rest of the world. Of course, tripping on foxholes alone in the dark isn't the smartest idea (especially when on crutches), but I need to get out there.

— Sheila Baber

'The pride I felt after volunteering'

Prompt

We know you lead a busy life, full of activities, many of which are required of you. Tell us about something you do for the pleasure of it.

Response

I was introduced to New York through the frigid mornings of 5K races. Although I wasn't always a competitor, the weekends I spent volunteering at events around the city soon translated to hours leading students, whether they were painting houses for flood victims or preparing meals at the homeless shelter. It was always the new faces I'd encounter, the smiles I'd face at the end of the day, and the pride I felt after volunteering that inspired my activism. Having founded a non-profit, I still find myself seeking out opportunities to volunteer and to find pleasure in helping others.

— Sharon Lin

DID YOUR MIT ESSAYS GET YOU IN?

The Tech is collecting successful application essays (**hint: yours!**).

Email your pieces to *cl@the-tech.mit.edu*!

THE PLUS PLUS

An open letter to classes that have psets and exams in the same week

This isn't working out

By Karleigh Moore
EDITOR

I hear you, really, I do. Psets are a great way to learn material and exams are a good way to test understanding, and it can be hard to pack all that learning and understanding into a single semester. Your reasons for this behavior — having psets and exams in the same week — make sense. But I wish you'd consider my wellbeing along with these optimizations.

When we first met at the beginning of the semester, the syllabus really should have raised some red flags. The two-day separation of our midterm (an important milestone in any student-course relationship for sure) and the due date of Pset 5 seemed like not-so-big a deal in those early weeks when I was still energized from break and the material was mostly review. I probably glossed over those all-too-close-together dates and thought to myself, "I got this!" But, class, let me tell you this: I was wrong. I most definitely do not "got this."

Things are moving a little too fast for me. That midterm you planned was an experience for sure. Seriously, that clever trick on question two that required students to recall that cute-but-obscure trigonometric equation — A+. (I mean, not that any student got an A+ on that exam. I'm just trying to give you a compliment here.) No, no, I'm not dropping you, so don't freak out, but I really need the next few days away from you to process things. I mean, I have dropped classes for less before, sure, but you and I have really got something special going on. We both know that you complete me, or, at least, one of my degree requirements that I cannot fulfill with literally any other class. (Believe me, I looked into that last week before studying for your exam.)

Since we are in this for the long-haul, I really need you to understand me here: I think some of your expectations are a little ridiculous, and I'm not ready for that level of academic commitment at this time in my life. You wanted me to attend lectures and recitations, prepare for an exam on lectures one through 15, take the exam, and two days later churn out a pset covering lectures 16 through 19? You're breaking my sleep schedule here, class.

STUDENT SPOTLIGHT

A freshman who does it all

A peek into the life of Nathan Liang '21

By Tafsia Shikdar
STAFF WRITER

Welcome to our new weekly feature on a random MIT student! To start off this exciting new series we delve deeper into the life of a freshman who does it all: Nathan Liang.

Nathan Liang

Class of 2021

Course 20 with a minor in Course 4

Burton-Conner, Burton 4

From Orlando, Florida

Brand Manager and Associate Arts Editor of *The Tech*, Board Member of dynaMIT, Concourse, MIT Lion Dance, RAK Week, Treasurer of his BC floor, and interested in creating an MIT Taiko Dojo Club (Traditional Japanese Drumming)

Why Course 20?

I was considering architecture from middle school up until sophomore year of high school, as I was always really artsy. During freshman and sophomore year in high school I took a drafting class that I really enjoyed, which involved creating blueprints and drawing house models, although we started off with cubes! It was taught by a really great teacher. However in sophomore year I also took AP Bio, and realized that I really liked it. My love for design, Biology (and some money...) eventually combined into an interest in bioengineering. I'm interested in the research surrounding the synthetic creation of organs e.g. via 3D printing!

What do you do at *The Tech*?

As Brand Manager I try to make the presence of *The Tech* better known around campus — PR person. My main job as Associate Arts Editor is choosing which Arts events *The Tech* can cover, making reservations, and occasionally I'll also go and review movies, plays or operas. My favorite event was watching a Japanese Taiko drumming group called Drum Tao. I did some Taiko drumming in Orlando, so I'm pretty interested in it!

Tell us more about your MIT Taiko Dojo Club!

I had a lot of different ideas for it in the fall, but after being involved with the Association of Student Activities in the fall, I realized the challenges associated with starting something new — money is limited! At this point I'm planning on organizing an open house to gauge some interest, maybe borrow a few drums from MIT Lion Dance.

What was being involved with RAK week like?

It was fun! It was a little bit stressful, as we planned it all in a month, and it was sometimes hard to understand the scope of what we were doing. It started off slow, but then the rest of the week, it slowly started taking off, which was great. If anyone saw me around, I was the one with a different onesie every day!

Why were you interested in dynaMIT?

My initial interest was because dynaMIT targets low-income middle schoolers, and as I became interested in STEM around this time, I felt it would be nice to give back in a way. I wanted to make the same impact on other middle schoolers that STEM had on me at that age. It's been good, again kind of stressful sometimes, like trying to make sure we had enough mentors and then sifting through applications!

Why did you decide to join Concourse?

I was afraid of how people came into MIT to only do STEM because I was also very arts-heavy, so I wanted to take part in something humanities driven. I joined Concourse because it was a humanities-focused freshman seminar. It's really fun — I'm super close with a lot of the people.

MAHI SHAFIULLAH —THE TECH

Nathan Liang is involved in a variety of activities, from MIT Lion Dance to dynaMIT.

How do you manage doing all these activities alongside MIT classes?

That's a good question! I kind of take it day-by-day, but also I was a really bad procrastinator in high school, shirking my work and then staying up until 5 a.m. to get it done. I finally forced myself to stop during junior year. I got myself into the habit of getting all the work I needed to do out of the way and then giving myself some time to have fun!

What do you like best and least about MIT?

I'm salty right now because I don't need 8.02 for my major, and so I wish the GIR classes were more balanced. The part of MIT I like best is that we have such an open community with such a wide array of people. I love meeting, talking and hanging out with all them!

What one value do you prize above all others?

Loyalty!

What one thing would you want to have with you on a desert island?

A reliable dog.

Would you rather always have to say everything on your mind or never be able to speak again?

Hmmm, probably always say what is on my mind. Never speaking again is terrible!

Would you rather be itchy for the rest of your life or be sticky for the rest of your life?

I feel like I could ignore itchiness but I hate being sticky —I would feel like I needed a shower all the time.

Would you rather have hiccups for the rest of your life or always feel like you have to sneeze but never be able to?

Both suck. I don't know...I guess the sneezing.

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BALLET REVIEW

Contemporary comparisons with the Boston Ballet

The Boston Ballet's *Parts in Suite* provides a study in contemporary ballet

Parts in Suite
Boston Ballet
Boston Opera House
March 9–April 7

By Carolyn Fu

With *Parts in Suite*, Boston Ballet's Artistic Director Mikko Nissinen has put together a masterful study of contemporary ballet. The triple bill showcases three of today's most prominent choreographers — Jorma Elo, Justin Peck and William Forsythe — each faced with the challenge of bringing shape to sound through a non-narrative work. This grants us the rare opportunity to compare and contrast their unique takes on George Balanchine's classic charge, to "see the music, hear the dance."

Elo sets the eponymous first piece to the music of the "Bach Cello Suites." The curtains open on cellist Sergey Antonov, who plays the first few movements to an empty stage. Here, the music takes precedence — setting the tone before the dancers slowly appear to fill its gentle melody. Elo's movements are primarily classical, but topped off with modern flourishes, such as a lift cantilevered precariously by one leg, or a sudden sharpness of movement. It is in these flourishes that the relationship with the music becomes clear — they are motivated by the melody, responding instinctively to however it wafts across the stage. Elo's choreography for large groups demonstrates this relationship best, where embellishments that appear only briefly in solos or pas de deux now ripple across a chain of connected dancers. Paulo Arrais and Derek Dunn were particularly effective envoys of the choreography, able to blend its classical and modern elements most seamlessly.

If Elo's response to the music is a natural, organic one, following its every suggestion; then Peck's *In Creases* provides a rational, mechanical one. Within the driving, rhythmic score of Philip Glass's "Four Movements for Two Pianos," Peck's dancers are like cogs in the machinery of the music. They interact with one another in regular, repeating patterns, but the movements are not in the least mundane — instead, Peck continuously finds captivating new ways to interface the dancers with one another. At one moment their movements evoke the turning of gears; at another, the tension of pulleys; at another, the steady climb of a ratchet.

The final piece is Forsythe's *Pas/Parts 2018*; where Elo's or Peck's movements might have followed a system of rules, Forsythe's are typified by chaos. This comes from his unique collaboration with the music, in that while Elo and Peck choreograph to pre-existing scores, composer Thom Willems created his specifically for *Pas/Parts*. Hence, while the others must be motivated by the music, in *Pas/Parts*, it is unclear if it is the music or the movement that comes first.

ROSALIE O'CONNOR/COURTESY OF BOSTON BALLET

The Boston Ballet inspires new relationships between music and dance.

It is for this reason that I actually found myself wanting more from the dancers for the first time that evening. Willems's music is extremely severe sounding, for all intents and purposes, like a train falling off a cliff. It is in fact quite beautiful, with a screeching rhythm that he expertly holds just at the point of collapse. Forsythe's wild and arrant movements are hence the perfect counterpoint to this. However, several times, I found the dancers to be too safe and subdued in their interpretations, unable to push back in quite so equal measure. But one exquisite exception was Chyrstyn Fentroy, who danced with such a vital mixture of precision and abandon that she evoked visions of Sylvie Guillem, Forsythe's longtime muse.

THEATER REVIEW

Photographing whiteness

The White Card examines racism within an elite white family with disappointing results

COURTESY OF ARTSEMERSON

Karen Pittman and Colton Ryan star in *The White Card*.

By Ethan Vo
STAFF WRITER

Produced by the collaborative efforts of ArtsEmerson and the American Repertory Theater, the highly anticipated world premiere of Claudia Rankine's *The White Card* unfortunately fails to deliver a satisfying experience. *The White Card* bares the hypocrisy of a liberal elite white family as they host a black photographer over dinner before the 2016 U.S. presidential election. Despite its promising premise, the play suffers from shallow characterization and forced dialogue, dulling what otherwise could have been a compelling narrative. These weaknesses ultimately lend the play an artificiality that is poisonous to shows tackling contemporary issues.

The events of *The White Card* are split into two scenes: the first is the aforementioned dinner party, while the second occurs a year afterwards. Charles (Daniel Gerroll), a wealthy businessman involved in real estate and construction, invites to dinner Charlotte (Karen Pittman), an African American artist whose work he is hoping to purchase from her. Other attendees include Charles' wife Virginia (Patricia Kalember), his son Alex (Colton Ryan), and Eric (Jim Poulos), an associate of Charlotte. Each of the four white characters live and breathe race; their litany of recent injustices against black people, their admiration of black celebrities, and pontifications on the works of black artists form an impenetrable echo chamber that ironically interrupts and excludes Charlotte from discussion. Their differences are stereotypical and insubstantial: Charles in his old age is more conservative, Virginia is klutzy and protective of her son, and Alex is a rebellious Black Lives Matter activist who spites his father. The result is that the characters only exist as talking points as if scraped from an online comment section. With this lack of depth in characterization, their encyclopedic obsession with African Americans and extreme wealth make the characters feel distant and exotic instead of a realistic portrayal of whiteness that is crucial to the play's narrative.

The second part of the play concerns a private encounter between Charles and Charlotte in Charlotte's home. Here, the play finds better footing dramatically; inversions in power dynamics and fascination in another race are interesting. Charlotte, who might as well have been mute during the first scene, is more free to express her intent in depicting whiteness, allowing the direction of the play to become clearer.

Regarding the actors' performances, the lack of realistic depth to the characters makes the effort a Herculean task. It seems unfair to judge an actor's performance when their character spends most of their time prattling aspects of Freddie Gray, Eric Garner, Michael Brown, Philando Castile, Michelle Obama, the Charleston shooting, Black Lives Matter, etc.

In terms of staging, the scenic design is memorably striking. The audience surrounds the stage on both sides and the stage is stark white, which engages the audience since the writing rarely does. Unfortunately, it also serves a reminder to the play's heavy-handedness and blandness.

The White Card
Directed by Diane Paulus
Written by Claudia Rankine
Emerson Paramount Center
Feb. 24–April 1

The contents of this play invites comparisons to *Oleanna*, recently performed at New Repertory Theater, and *Get Out*, the Oscar-nominated film. While *Oleanna* did not concern race, its nuance in language in discussing political correctness makes *The White Card* pale in comparison. *Get Out*'s genre-bending in transforming morbidly fascinated white people to horrific body snatchers is also reminiscent here, as the white characters in *The White Card* effuse in their praise of the Williams sisters. With upper class family melodrama being the main source of tension however, the show drifts into farcical territory instead with the audience laughing whenever one of the white characters unknowingly says something offensive in front of Charlotte. Given that the play is drifting towards *Tartuffe*, it will need more than references to contemporary events to ground itself to reality.


```
File   Edit   Options   Buffers   Tools   Im-Python   Python   Help
from new_skills import *

def learnMarketableJobSkills():
    return linux, OSX, javascript, applescript, perl, python, PHP

if self.interest == True:
    print "E-mail join@tech.mit.edu"

----:----F1 joinTechno.py       (Python)--L1--Top----------------------------------------------------
```

THEATER REVIEW

The million bright sides of life

Every Brilliant Thing: serious issues, sincere and comic approach

★★★★★

Every Brilliant Thing

Directed by Marianna Bassham

Starring Adrianne Krstansky

Written by Duncan MacMillan with Jonny Donahoe

Calderwood Pavilion

March 2–31

By Patricia Gao and Mahi Shafiullah
STAFF WRITERS

We didn't know how to write this.

We were still in shock after leaving the cozy, arena-style theatre for the imposing wideness of Tremont Street. We'd just watched *Every Brilliant Thing*, a one-woman show written in England by Duncan Macmillan and brought to Boston by SpeakEasy Stage Company. The show follows the journey of a Narrator (Adrianne Krstansky), whose mother's depression and attempted suicides inspire her to create a giant list of every brilliant thing in life.

Of course, "watched" is not the proper term to describe how we interacted with the play. "One-woman show" is also inaccurate — though Krstansky was the only actress on the bill, the spotlight shone on the audience, too. Most of us had lines to read, hand-written on unique scraps of paper. Some members of the audience were called on to improvise, taking on various roles that included the Narrator's father, teacher, and even husband. Often, Krstansky asked audience members for props or apologized when she bumped into someone as she meandered around the bleachers. She sang aloud, and we laughed, as if she was an old, excitable friend, recounting a good story. In the end, we didn't "watch" *Every Brilliant Thing* as much as we experienced it.

And it's hard to express the quality of an experience that's so personal when the whole play is filled with so many wonderful things. The lighting was natural but pleasant. Not a single moment in the the performance felt overdramatic. Before the show began, we were approached by a cheerful woman with a basket who asked us if we wanted to participate in the show. We were to read an item off of the list of brilliant things when its number was called (ours was #23: Spiderman). After the show ended, amicable ushers directed us to a bulletin board, where we could leave our own brilliant thing on a brightly-colored sticky note.

We could go on and on, collecting every detail that made *Every Brilliant Thing* so enjoyable, but we can't describe just how meaningful it was or convey the exact loveliness of Macmillan's script and Krstansky's delivery.

And maybe that's the point of all of it, of the Narrator's own experience with life and her list of brilliant things. At times, she finds herself capable of collecting thousands of things that give her pleasure — at others, she struggles to think of even one. But sometimes, adding to the list isn't what matters, and the Narrator feels comforted just reading it. She thinks that there is value to life, that there are moments worth powering through the bad times for, and that is not something she is always able to persuade others to believe. But she can hope, and she does. This play excels in making the whole piece look so natural — as if it were truly lifted off of someone's life and set into a stage.

We have seen many tragedies and comedies, but *Every Brilliant Thing* is a play that frames a tragedy through a comedic lens by integrating Krstansky's outstanding acting with Macmillan's unbridled optimism.

COURTESY OF SPEAKEASY STAGE COMPANY

An audience member at *Every Brilliant Thing* holds an item of the list of brilliant things — their job is to read it out loud when the Narrator calls the number 315.

MOVIE REVIEW

A movie with distasteful humor, violence and not many redeeming qualities

What happens when an American pharmaceutical company gets involved with a Mexican drug cartel?

By Lila Jansen
STAFF WRITER

What happens when an American pharmaceutical company gets involved with a Mexican drug cartel? This is the question on which *Gringo* bases its plot. Good hearted, but short on cash, business man Harold Soyinka (David Oyelowo) is brought on a business trip to Mexico with his corrupt and duplicitous bosses (Charlize Theron and Joel Edgerton). While there, he discovers that his wife is cheating on him and has drained him of his money, and he is about to be laid off as the result of an upcoming company merger. Feeling he has lost everything, he stages his own kidnapping and attempts to get a last chance ransom out of the company.

While the setup seemed to lay out everything needed for a great action comedy, what followed was an amalgamation of unbelievable coincidences, chance meetups, and distastefully violent scenes in which major characters were killed seemingly at whim and without furthering any plot. By the end of the movie, you didn't really know what was going on, and the marijuana pill subplot had been rendered completely unnecessary to what had become an oddly violent moralistic tale about the importance of good values.

Gringo also failed to take advantage of its all-star cast. While Charlize Theron, for example, portrayed the seductive and malicious business partner and lover of the ruthless pharmaceutical CEO, the character was so one-sidedly villainous that even she was unable to bring the character any real empathy or intrigue. Every character in the film was similarly flat. Oyelowo's character, Harold, fell on the opposite side of the spectrum, a do-gooder who felt unrelatable and inactive, even during the high speed chase scene; and Amanda Seyfried basically played the role of a saint: a perfectly sweet young girl, who was not only unrelatable but also entirely out of place in the film.

In short, *Gringo*, like its one-sided characters, fell flat. Sure, there were some high-action scenes, and distasteful but somewhat funny jokes thrown in here and there, but it failed to captivate. Even with nothing else to recommend them, some films manage to captivate with violence and action alone. Unfortunately for *Gringo*, despite it's numerous high action scenes and the inclusion of some distasteful but somewhat funny jokes, this was not the case.

★★☆☆☆

Gringo

Directed by Nash Edgerton

Screenplay by Anthony Tambakis and Matthew Stone

Starring David Oyelowo, Charlize Theron, Joel Edgerton, Amanda Seyfried

Rated R, Now Playing

ARTIST INTERVIEW

'Art is a part of our community. It's already here'

How one MIT alum went from mathematics to hip-hop

By Johnson Huynh
STAFF WRITER

I've sat down with Sarah Quinn '17, a recent Course 18 graduate who has recently left MIT to become a hip-hop artist, to talk about her experience here and her journey to become the artist she is today.

Just take a moment to absorb that. Someone entered the Massachusetts Institute of Technology to create something beautiful for the world. Indeed, it's very interesting to see a student walk away from the Institute to pursue careers that are not related to CS or STEM. It's even more outlandish to see them create art. "The lyricism," Quinn said, "really opens doors to explore different areas of creativity. It's really intellectual, almost like a math puzzle." She spoke loudly then, her heart in her voice. I couldn't stop myself from leaning forward into this conversation.

When asked what prompted her to start her journey, Quinn nostalgically told me about how things had been going well for her. She was captain of the Track and Field team and ran Cross Country. "I had a 5.0 up to my junior spring," she added. She was at the top of the world, and then luck decided to turn inside out. "I slipped," she said.

Quinn sustained an injury that would put her out of commission for running. Then, she stopped going to classes. Living in an apartment in Kendall, she would find herself going back home to sleep and do nothing else. Quinn leaned back into the olive-green sofa as she recounted her tale.

"I did not understand mental health at all until I personally experienced a mental health issue," Quinn commented. "My main passion is music. It was in a hard situation where I found that. You know, every curse is a personal blessing." Deciding to take a chance, Quinn decided to take night classes on music production. It started off as a hobby. Gradually, though, she became enthralled by the music.

"What would be your story?" I asked. Quinn wants people to remember her music as "very complex. Every word I put in there is purposeful, maybe I'll put a play on words in there. I want people to really think about [my lyrics], and I think that's where the art is. Little nuances like that make the art." We talked a little about our respective journeys through MIT. There was me, the freshman who acts. There was she, the graduate who raps.

I inquired about any advice she could offer to young artists at MIT. "Stick to your core. I can say, I've been kinda different all my life. I've never fit in perfectly. All the times I tried to fit in, it's never been genuine. People really appreciated my art when it really portrayed who I am. It's when you're most creative and most raw. You don't have to please everybody. Don't be scared to pursue art, particularly at a place like MIT."

ARTS ARTS ARTS

CONCERT REVIEW

Synth, swamp, and soul

Berklee student and alumni musicians rock the Sinclair

By Aron Brenner

The Berklee Popular Music Institute (BPMI) connects student and alumni musicians with students studying management to give aspiring professionals a taste of life in the music industry. Hoping to be the next St. Vincent or Passion Pit, two of BPMI's more notable alumni, five musical acts were chosen from over 300 submissions to perform at the Sinclair. These six acts representing a diverse range of genres from "synth-soul" to "folk-swamp" included AJNA, luhx., Emilia Ali, Yanina, and Jacksonville Kid, all of which put on lively and engaging performances that I would expect from nothing less than experienced live musicians.

AJNA

In recent years, it seems that indie rock has taken a clean and minimalistic approach to sound, which makes it all the more refreshing to find a band that isn't afraid to let loose. In their slower songs, AJNA combines a tight rhythm section with sweeping synths, phase-shifted guitars, and effects-driven vocals to create a melodic, dreamy soundscape that had the crowd swaying and nodding their heads to the music. However, it isn't until these songs reach their climax that AJNA truly shines. Songs like "Caught in the Feeling" slowly build to a peak that is fully realized when the lead singer seems to channel the spirit of Robert Plant himself and belt high notes that recall power ballads of decades past. After the show, I managed to find videos of other AJNA performances, but none of them did the live performance justice.

luhx.

When I read luhx.'s description that advertised them as a "synth-soul" band, I didn't really know what to expect. In hindsight, I can't think of any better way to describe their sound; luhx. is a band that exudes synth and soul in every way. Their drummer managed to inject a surprisingly primal sort of energy into the familiar rhythms of dance and electronica. At the same time, two synthesizers radiate brassy, textured waves of sound. Though it was hard to hear, I could see the guitarist was playing rapid, jazzy licks that were unfortunately lost in the mixture of sounds coming from the rhythm section. The doubled-up vocal performance was conservative but worked well for the synth-soul style the band created. Ultimately, luhx. is successful in crafting a unique and captivating style built on a foundation of entrancing synth melodies.

Emilia Ali

At this point, I feel it's only fair for me to admit that pop music has never been my favorite genre. Moreover, modern production quality often makes it difficult for popular artists to perform live at a level that reaches the standard they set for themselves in the studio. Even then, when Emilia Ali took to the stage with her band, I couldn't help but find myself dancing and having a blast with the rest of the venue. Ali's talent as a vocalist and live act are undeniable, and her band's wobbly synth instrumentals were a great complement to her singing. While Ali sounded great live, I think her music comes across even better on her EP, *Dreamland*, and I would recommend it to anyone looking for a solid pop album with substantial production value.

Yanina

Some musicians seem to born with a natural gift for stage presence and star power. Yanina introduced herself to the Sinclair by running onto the stage and performing a 20-second choreographed dance with two backup dancers who disappeared from sight as soon as the dance ended, leaving the venue along with myself starstruck and a little confused. However, that's not to say that Yanina's musical performance wasn't also excellent. Though her vocal style was unremarkable, her performance was still soulful, passionate, and commanding, and her backing band provided all the tight drumming and bass playing a pop/soul singer could want.

Jacksonville Kid

Every artist from the showcase was a unique blend of genres in one way or another, but none was as peculiar and remarkable as the closing act. At least half of the venue had left by the time Jacksonville Kid, a self-proclaimed "folk-swamp" band complete with a fiddle player, showed up. Their first song was a solid, albeit generic Americana song. Their second song, however, ramped up halfway through and evolved into a long, jumbled, effects-driven instrumental section where their sound had become a mix of indie and alt rock, all while retaining the same fiddle and guitar sound that Jacksonville Kid promises as a folk-swamp band. By this point, the lead singer/guitarist was jumping around the stage, stepping over amps and sound equipment until he was playing guitar on his knees. By the third song, the band had abandoned their folk roots altogether and were playing some type of southern punk rock. What was left of the venue started chanting and formed a small mosh directly in front of the stage. It can be hard for artists that blend genres to find mainstream popularity, but I will definitely be keeping an eye on Jacksonville Kid to see what direction they pursue in the future.

Berklee Popular Music Institute's Epic Event

AJNA, luhx., Emilia Ali, Yanina, Jacksonville Kid

The Sinclair

March 6

Bliss

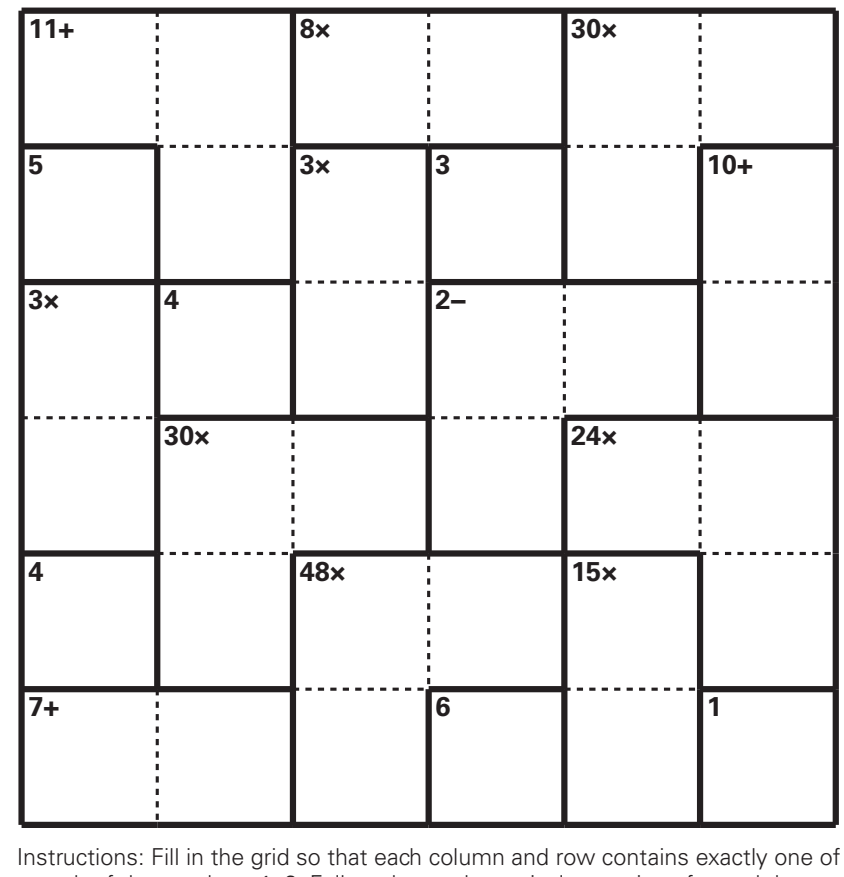
Solution, page 4

8			7					
1				8			5	6
	3		2		5	8		
4		3			9			
7	1						6	9
			6			7		3
		1	4		7		8	
9	4			5				2
					3			7

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Snow

Solution, page 4



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Friends at First by Carolyn Stewart

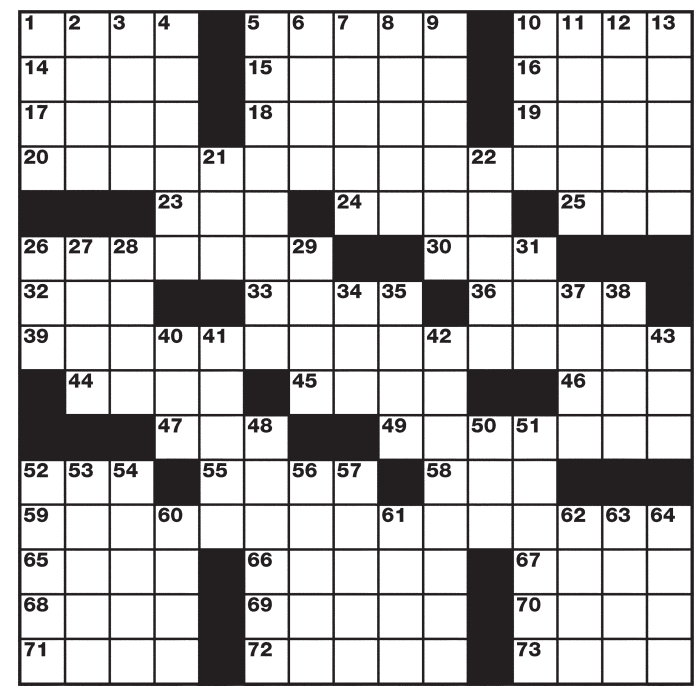
Solution, page 4

ACROSS

1 Shower alternative
5 Hay-bundling machine
10 Clumsy ones
14 Taj Mahal city
15 "All kidding __ . . ."
16 Region
17 Bridle strap
18 Altar exchanges
19 Coyote cry
20 Stock-exchange firms
23 Wrath
24 Father of Thor
25 Historical period
26 Magazine renewal cards
30 Crusty dessert
32 Bovine cry
33 Competitive squad
36 In the know about
39 Sorbets between wine tastings, e.g.
44 Get the news
45 Region: Abbr.
46 "__ was saying . . ."
47 Ship's emergency signal
49 Absolute ruler
52 Atty.'s group
55 Passport stamp
58 Dinghy propeller
59 Accounting department projections
65 Play a tuba or trumpet
66 Speak
67 Stash away
68 Folklore brute
69 Handbag
70 Blunt sword
71 Frequent texter
72 Dalmatian markings
73 Mail out

DOWN

1 Sharp point on a farm fence
2 Golden-__ (senior)
3 Threesome
4 Sneezer's cloth
5 Hair clasp
6 Where most people live
7 Specialized vocabulary
8 Defeated by a hair
9 Mail out a second time
10 Where most Hawaiians live
11 Stood up
12 Not as many
13 Dip for taco chips
21 Mess up
22 13 Down ingredient
26 Sassy child
27 Biblical boat builder
28 One and only
29 Religious branch
31 Nav. rank
34 Tavern order
35 Insignificant
37 Rip
38 Estimation phrase
40 Small batteries
41 Stash of treasure
42 Big cabinets for clothing
43 Knight's title
48 Exercises for abs
50 Cooking spray brand
51 Wipes clean
52 Monk's superior
53 Protrusion

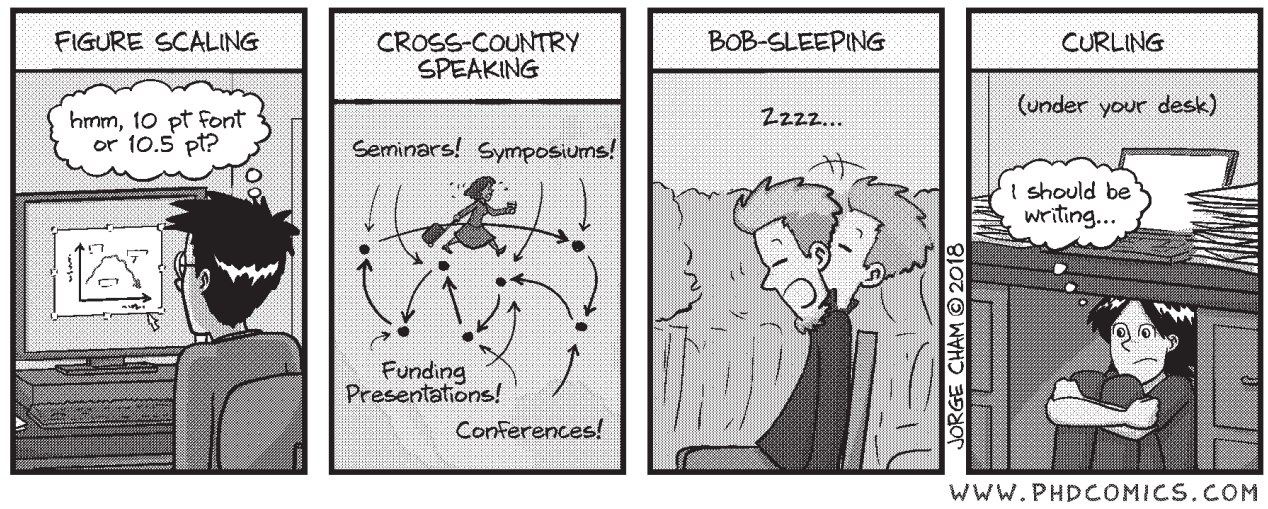


54 Be wild about
56 Establish
57 Houston baseballer
60 Singer Stefani
61 Trial run
62 Gift-wrapping adhesive
63 __ so (nevertheless)
64 Apple-core bit

PHD
PILED HIGHER AND DEEPER

by Jorge Cham

ACADEMIC WINTER OLYMPIC SPORTS

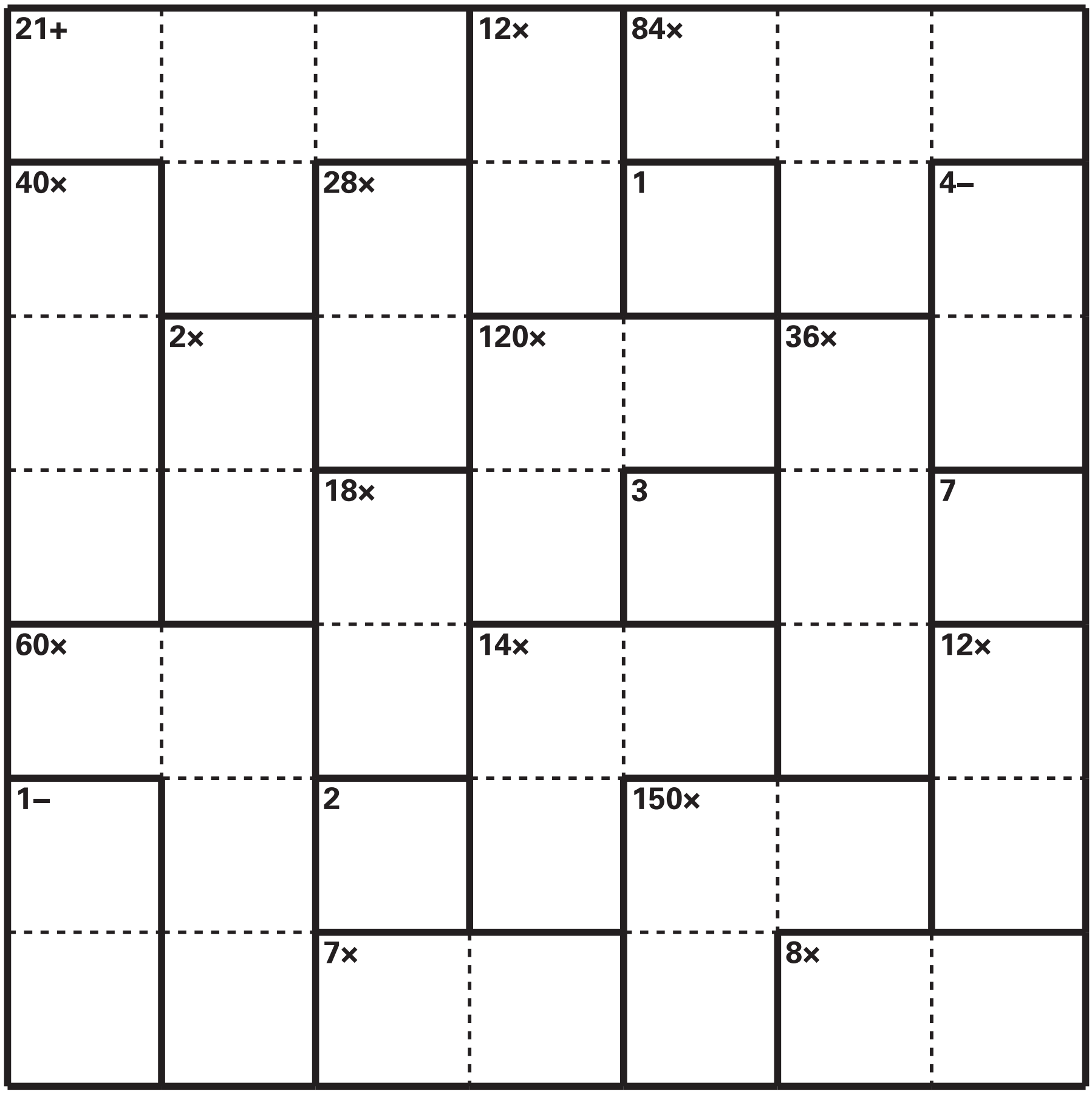


FUNFUNFUNF

FUNFUNFUNF

Pie Day

Solution, page 4



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–7. Follow the mathematical operations for each box.

2022

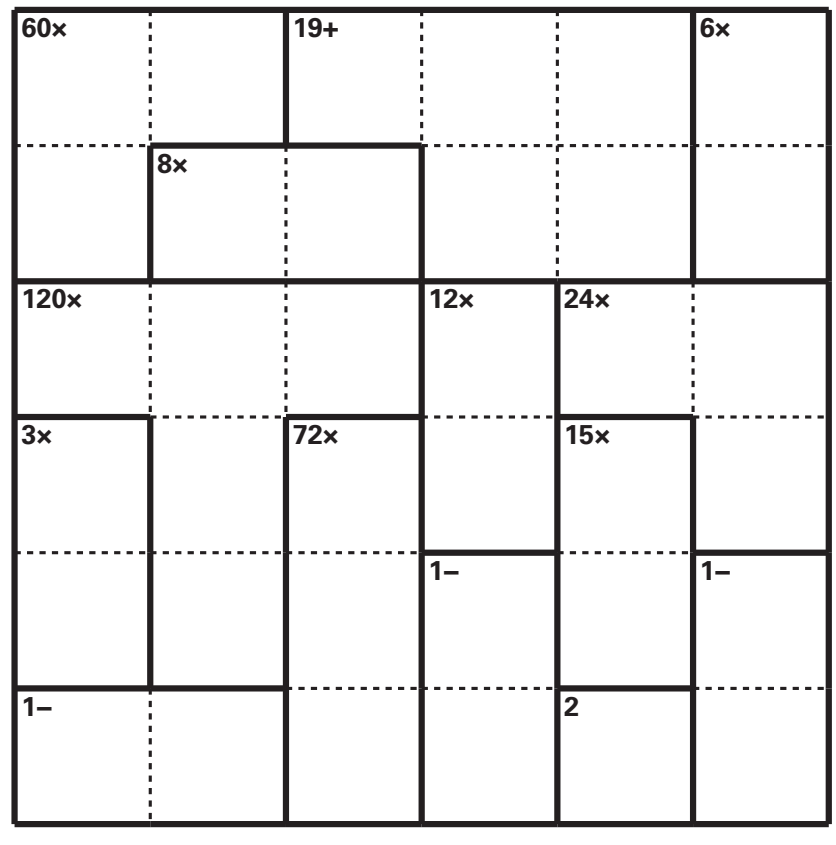
Solution, page 4

						5	7	
	4	7				2		3
	5				8		9	4
			7	6	2		3	
7								5
	6		4	5	9			
4	1		8				5	
9		3				6	4	
	7	5						

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

3.14

Solution, page 4



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

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Qualifications (please specify position, e.g., intern/full-time, SW/HW)

- MS/PhD or equivalent experience in CS, CSE,ECE, EE or related fields.
- Ability to work independently, define project goals and scope, and lead your own development effort.
- Excellent Python, C/C++ programming and software design skills, including debugging, performance analysis, and test design.
- Knowledge of CPU and/or GPU architecture. CUDA or OpenCL programming experience desired.
- Experience with the following technologies is a huge plus: deep learning models and algorithms, deep learning framework design, high performance compiler design, or EDA synthesis and optimization algorithms.
- Familiarity with PyTorch, Caffe, TensorFlow etc. with strong hands on experience is also a big plus.
- Strong communication skills are required along with the ability to work in a dynamic product oriented team. A history of mentoring junior engineers and interns is a bonus.

Company Description

Iluvatar CoreX 天数智芯

Iluvator CoreX Inc. is a China-Silicon Valley-based technology startup founded in 2017. Founding members of the company consists of world class veteran engineers and entrepreneurs in the computer hardware and software industries. Ourmain goal of the company is to deliver open, scalable AI computing platform with extreme performance, to serve the rising computing needs in the AI market. The platform includes but is not limited to ASIC IP Cores/SoC (for both inference and training), system software, computing frameworks, middleware and applications/services. The company has set up offices in the world's most innovative cities, including Beijing, Shanghai, Hong Kong and Silicon Valley.

The company is looking for strong hardware/software engineers for junior, senior and intern levels to work on deep learning solutions on top of its own customized Deep Learning ASICs/SoCs. The positions with be open for both Sunnyvale, CA and Shanghai, CN. Please submit your resume to: *jobs@iluvatar.ai*

Solution to Friends

from page 11

B	A	T	H	■	B	A	L	E	R	■	O	A	F	S
A	G	R	A	■	A	S	I	D	E	■	A	R	E	A
R	E	I	N	■	R	I	N	G	S	■	H	O	W	L
B	R	O	K	E	R	A	G	E	H	O	U	S	E	S
■	■	■	I	R	E	■	O	D	I	N	■	E	R	A
I	N	S	E	R	T	S	■	■	P	I	E	■	■	■
M	O	O	■	■	T	E	A	M	■	O	N	T	O	■
P	A	L	A	T	E	C	L	E	A	N	S	E	R	S
■	H	E	A	R	■	T	E	R	R	■	■	A	S	I
■	■	■	S	O	S	■	■	E	M	P	E	R	O	R
A	B	A	■	V	I	S	A	■	O	A	R	■	■	■
B	U	D	G	E	T	E	S	T	I	M	A	T	E	S
B	L	O	W	■	U	T	T	E	R	■	S	A	V	E
O	G	R	E	■	P	U	R	S	E	■	E	P	E	E
T	E	E	N	■	S	P	O	T	S	■	S	E	N	D

Solution to Bliss

from page 11

8	5	2	7	1	6	3	9	4
1	7	9	3	8	4	2	5	6
6	3	4	2	9	5	8	7	1
4	6	3	1	7	9	5	2	8
7	1	8	5	3	2	4	6	9
2	9	5	6	4	8	7	1	3
3	2	1	4	6	7	9	8	5
9	4	7	8	5	1	6	3	2
5	8	6	9	2	3	1	4	7

Solution to Pie

from page 13

3	7	5	4	2	1	6
2	6	4	3	1	7	5
5	2	7	6	4	3	1
4	1	6	5	3	2	7
1	5	3	2	7	6	4
7	4	2	1	6	5	3
6	3	1	7	5	4	2

Solution to 2022

from page 13

8	3	9	2	4	1	5	7	6
1	4	7	6	9	5	2	8	3
2	5	6	3	7	8	1	9	4
5	9	8	7	6	2	4	3	1
7	2	4	1	8	3	9	6	5
3	6	1	4	5	9	8	2	7
4	1	2	8	3	6	7	5	9
9	8	3	5	1	7	6	4	2
6	7	5	9	2	4	3	1	8

Solution to 3.14

from page 13

4	3	1	5	6	2
5	4	2	6	1	3
2	1	5	3	4	6
3	2	6	4	5	1
1	6	4	2	3	5
6	5	3	1	2	4

Solution to Snow

from page 11

6	3	2	4	1	5
5	2	1	3	6	4
1	4	3	5	2	6
3	6	5	1	4	2
4	1	6	2	5	3
2	5	4	6	3	1

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Panels discuss life in space, evolution of space research

Cradle, from Page 2

ation where one could use the data but one could not participate. ... You don't have to be just a user anymore."

Dr. Danielle Wood of the Space Enabled Research Group advocated for the discontinuation of the word "colonization" to describe human exploration of space. Instead, Woods encouraged future explorers to "learn from indigenous communities that were impacted by colonialism," make an effort to preserve pristine places, and not create "situations where people are exploited in the process."

Other panel discussions dealt with the potential for life in outer space, arts and space, and the evolution of space research. Political issues were mentioned briefly during the future of space research panel, when founder of Spacehack.org and member of NASA Innovative Advanced Concepts council Ariel Waldman announced, "Space needs to be stop being treated as a political token."

In the panel discussion on the frontier of life in space, MIT EAPS Prof. Sara Seager brought up New Worlds Mission, an occulter designed to block starlight to observe orbiting exoplanets, and the Transiting Exoplanet Survey Satellite (TESS), which is scheduled to launch this year on a SpaceX rocket.

Allison Htun '21, who heard about the event from a mailing group, said that Beyond the Cradle provided a "nice break from psets and served as a good reminder for why I'm interested in [space exploration]." Htun said, "The event also allowed me to have interesting conversations with people, each bringing a different perspective on the topic."

The rest of the event featured a keynote presentation from the artist Nahum, workshops on space entrepreneurship and childcare, a panel of former and current astronauts, and a plenary panel featuring some of the leaders in space industry.

A webcast of the event will be available through the Media Lab.

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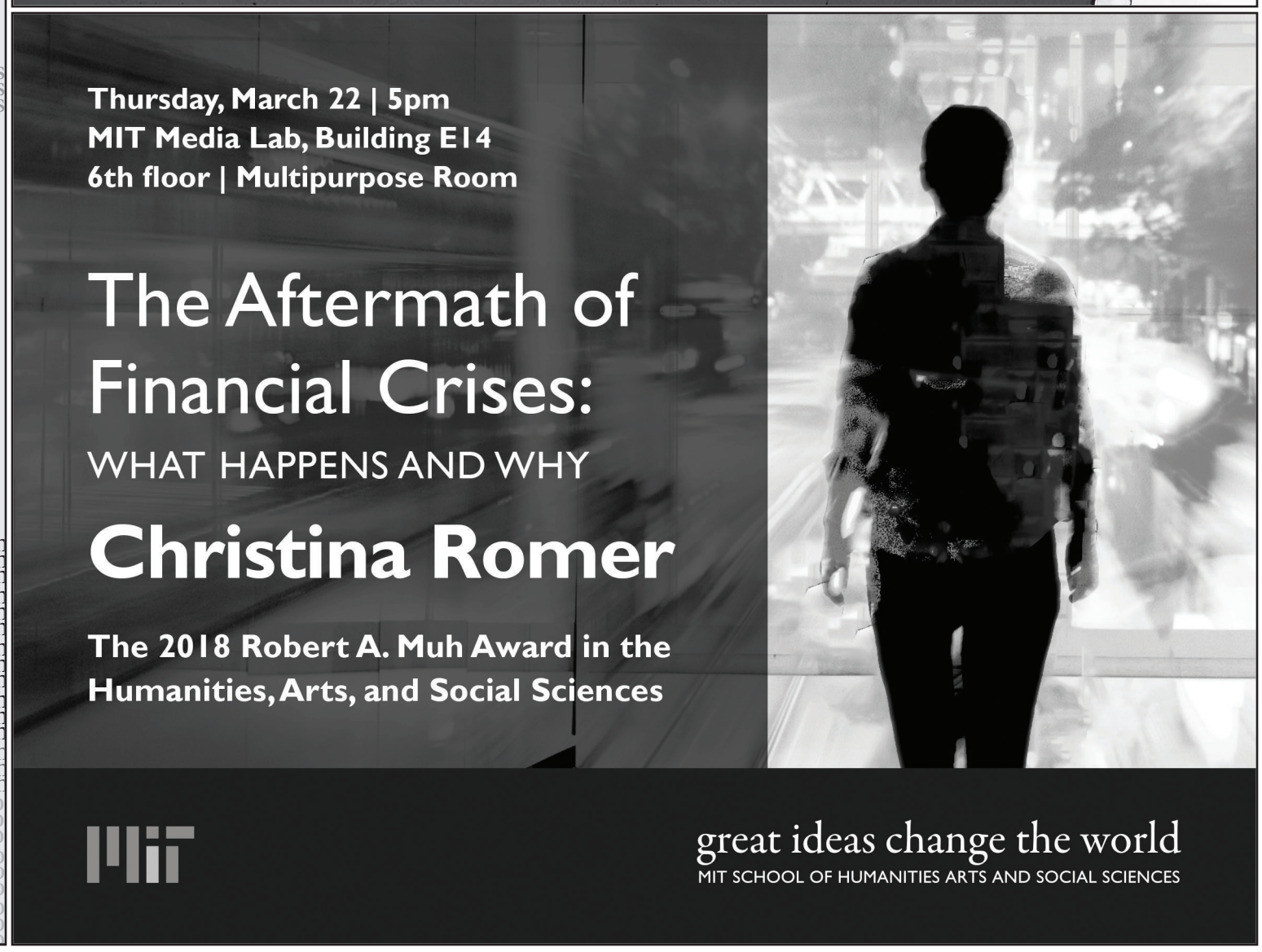
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